

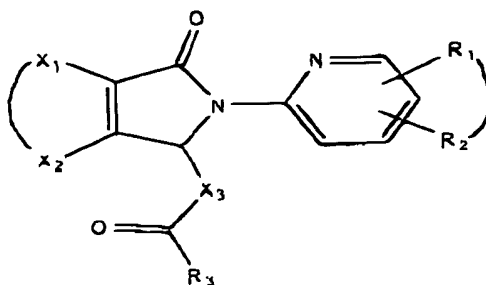
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receptor agonist, partial agonist, antagonist or inverse agonist, its pharmaceutically acceptable salts, enantiomers, or metabolites thereof.

2. (Amended) The method according to claim 1,

wherein said agonist, partial agonist, antagonist or inverse agonist comprises: allopregnanolone, alphaxalone, alprozolam, amobarbital, aprobarbital, avermectin B, \pm baclofen, bicuculline, butabarbital, butalbital, camazepam, cloflubicyne, chlordiazepoxide, clorazepam, chlorazepate, diazepam, diazepam binding inhibitory protein, diazepam binding inhibitory protein fragment, dihydroepiandrosterone, epiallopregnanolone, estazolam, etbicuphat, etbicythionat, etomidate, flucybene, flunitrazepam, flurazepam, halazepam, D- β -hydrastine, isobicyphat, lorazepam, mebicyphat, mephobarbital, methohexital, midazolam, oxazepam, pagoclone, pentobarbitone, pehnobarbital, picrotoxinin, picrotoxin, pinazepam, prazepam, pregnanolone, pregnenolone, pregnenolone, progesterone, propofol, propylbicyphat, quazepam, 2-(7-chloro-2-naphthyridin-1,8-yl)-3-(5-methyl-2-oxohexyl)isoindolin-1-one, 2-(7-chloro-2-naphthyridin-1,8-yl)isoindolin-1-yl-4-acetamidobutyrate, 2-(7-chloro-1,8-naphthyridin-2yl)-3-(5-methyl-5-hydroxy-2-oxohexyl)-1-isoindolinone, secobarbital, suriclone, tenazepam, tetrahydrodeoxycorticosterone, tetramethylene sulfotetramide, thiopental, triazolam, zopiclone, pharmaceutically acceptable salts thereof, enantiomers thereof, or metabolites thereof.

3. (Amended) The method according to claim 1, wherein the agonist, partial agonist, antagonist or inverse agonist has the formula (I).



(1)

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wherein:

(a) R_1 and R_2 are the same or different sterically compatible substituents which are selected from the group consisting of: hydrogen, alkyl having 1 to 8 carbon atoms, alkyl having 1 to 8 carbon atoms, and having at least one of nitrogen, oxygen, sulfur, or phosphorus; aryl having 1 to 8 carbon atoms; and aryl having 1 to 8 carbon atoms and comprising at least one nitrogen, oxygen, sulfur, or phosphorus;

(b) R_3 is selected from the group of substituents consisting of alkyl, alkenyl, alkynyl, alkoxy, alkenoxy, alkynoxy, alkoxyalkyl, alkanoyl, alkenoyl, alkanoyloxy, alkenoyloxy, alkylsulfonyl, alkylsulfinyl, alkylthio, alkanoylamino, alkenoylamino, alkoxycarbonyl, alkenoxycarbonyl, alkoxycarbonylamino, alkoxycarbonylaminoalkyl, aryl, cycloalkyl having 3 to 6 ring members, cycloalkenyl having 4 to 6 ring members, cycloalkylalkyl having 3 to 6 ring members, cycloalkenylalkyl having 4 to 6 ring members, with the proviso that each of the foregoing R_3 substituents has up to 8 carbon atoms, trifluoromethyl, nitro, amino, hydroxyl, halogen, aminocarbonyl, cyano, cyanoalkyl having from 2 to 4 carbon atoms, aminocarbonylalkyl having 2 to 4 carbon atoms, aryl, alkaryl, piperazinyl, and methyl-piperazinyl;

(c) X_1 and X_2 are the same or different sterically compatible substituents which are selected from the group consisting of: hydrogen, alkyl, alkenyl, alkynyl, alkoxy, alkenoxy, alkynoxy, alkoxyalkyl, alkanoyl, alkenoyl, alkanoyloxy, alkenoyloxy, alkylsulfonyl, alkylsulfinyl, alkylthio, alkanoylamino, alkenoylamino, alkoxycarbonyl, alkenoxycarbonyl, alkoxycarbonylamino, alkoxycarbonylaminoalkyl, aryl, cycloalkyl having 3 to 6 ring members, cycloalkenyl having 4 to 6 ring members, cycloalkylalkyl having 3 to 6 ring members, cycloalkenylalkyl having 4 to 6 ring members, with the additional proviso that each of the foregoing X_1 and X_2 substituents has up to 8 carbon atoms, trifluoromethyl, nitro, amino, hydroxyl, halogen, aminocarbonyl, cyano, cyanoalkyl

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having from 2 to 4 carbon atoms, aminocarbonylalkyl having 2 to 4 carbon atoms; and

(d) X_3 is selected from the group consisting of: a methylene— $C(HR_4)$ —

where R_4 is selected from the group of substituents consisting of alkyl, alkenyl, alkynyl, alkoxy, alkenoxy, alkynoxy, alkoxyalkyl, alkanoyl, alkenoyl, alkanoyloxy, alkenoyloxy, alkylsulfonyl, alkylsulfinyl, alkylthio, alkanoylamino, alkenoylamino, alkoxycarbonyl, alkenoxycarbonyl, alkoxycarbonylamino, alkoxycarbonylaminoalkyl, aryl, cycloalkyl having 3 to 6 ring members, cycloalkenyl having 4 to 6 ring members, cycloalkylalkyl having 3 to 6 ring members, cycloalkenylalkyl having 4 to 6 ring members, with the additional proviso that each of the foregoing R_4 substituents has up to 8 carbon atoms, trifluoromethyl, nitro, amino, hydroxyl, halogen, aminocarbonyl, cyano, cyanoalkyl having from 2 to 4 carbon atoms, and aminocarbonylalkyl having 2 to 4 carbon atoms; amino; — $N(R_5)$ — where R_5 is selected from the group of substituents consisting of alkyl, alkenyl, alkynyl, alkoxy, alkenoxy, alkynoxy, alkoxyalkyl, alkanoyl, alkenoyl, alkanoyloxy, alkenoyloxy, alkylsulfonyl, alkylsulfinyl, alkylthio, alkanoylamino, alkenoylamino, alkoxycarbonyl, alkenoxycarbonyl, alkoxycarbonylamino, alkoxycarbonylaminoalkyl, cycloalkyl having 3 to 6 ring members, cycloalkenyl having 4 to 6 ring members, cycloalkylalkyl having 3 to 6 ring members, cycloalkenylalkyl having 4 to 6 ring members, with the additional proviso that each of the foregoing R_5 substituents has up to 8 carbon atoms, trifluoromethyl, nitro, amino, hydroxyl, halogen, aminocarbonyl, cyano, cyanoalkyl having from 2 to 4 carbon atoms, and aminocarbonylalkyl having 2 to 4 carbon atoms; sulphur; phosphorus; and oxygen group; pharmaceutically acceptable salts thereof, enantiomers thereof, or metabolites thereof. The method according to claim 3, wherein the cycloalkenylalkyl of R_3 , R_4 , R_5 , X_1 , and X_2 independently have 1 to 3 alkyl substituents.

11. (Amended) The method according to claim 1, wherein said agonist, partial

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agonist, antagonist or inverse agonist is effective at the receptor subtype A

12. (Amended) The method according to claim 1, wherein said agonist, partial agonist, antagonist or inverse agonist is an agonist of the receptor subtype A.

14. (Amended) The method according to claim 1, wherein said agonist, partial agonist, antagonist or inverse agonist comprises a cyclopyrrolone.

17. (Amended) The method according to claim 2, wherein said agonist, partial agonist, antagonist or inverse agonist comprises pagoclone, suriclone, zopiclone, 2-(7-chloro-2-naphthyridin-1,8-yl)-3-(5-methyl-2-oxohexyl)isoindolin-1-one, 2-(7-chloro-2-naphthyridin-1,8-yl)isoindolin-1-yl-4-acetamidobutyrate, 2-(7-chloro-1,8-naphthyridin-2yl)-3-(5-methyl-5-hydroxy-2-oxohexyl)-1-isoindolinone, pharmaceutically acceptable salts thereof, enantiomers thereof, or metabolites thereof.

18. (Amended) The method according to claim 17, wherein the agonist, partial agonist, antagonist or inverse agonist comprises pagoclone.

Remarks

Amendments

Claims 1-3, 11-14, 17 and 18 have been amended to reflect that the present invention relates to methods of using compounds that are agonists, partial agonists, antagonists or inverse antagonists of GABA receptors. Therefore, the word "modulator" has been deleted in the amended claims and replaced with the phrase "agonist, partial agonist, antagonist or inverse agonist." This amendment is being made to clarify what is being claimed.

35 U.S.C. 103(a)

Claims 1-20 and 33 have been rejected as allegedly being unpatentable over Bourzat et al. and Doble et al. in view of Novo Nordisk and Sandyk Applicants